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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
STEVENS, THOMAS H	
ART UNIT	**PAPER NUMBER**
2123	

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/804,302	OTSUKA, TORU	
	Examiner	Art Unit	
	Thomas H. Stevens	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,11,14-16,18-23,27,29 and 30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,11,14-16,18-23,27,29 and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-4,11,14-16,18-23,29 and 30 were examined.

SECTION I: Response to Applicant's Arguments (First Action)

Information Disclosure Statement

2. Examiner accepts applicant's revamped IDS dated October 15, 2004.

Claim Rejections - 35 USC § 112 2nd paragraph

3. Examiner withdraws rejection based on applicant's action.

Claim Rejections - 35 USC § 102

4. Examiner withdraws 103(e) rejection based on applicant's amendment; however, examiner has found new art in lieu of amended claims.

SECTION II: (Second Action)

Claim Interpretation

5. Office personnel are to give claims their **"broadest reasonable interpretation"** in light of the supporting disclosure. *In re Morris,* 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited

in the claim are not read into the claim. *In re Prater,* 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551(CCPA 1969). See *also *In re Zletz,* 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322(Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow") .... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed .... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process. The examiner interprets "sensor information' as a temporary storage mechanism or library based on the description on page 6, lines 5-26 in the specification with figure 3A element 114. Furthermore, the examiner invokes the provision of design choice for claims disclosing plurality of simultaneous simulations.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1,19,22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed,

had possession of the claimed invention. The examiner was unable to find "pseudo-operation" means within the specification.

8. Claims 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The examiner was unable to find "second control simulator" within the specification.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims1-4, 11, 14-16,18-21, 22,23,29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Boyle et al., (U.S. Patent 5,363,320 (1994)). Boyle et al teaches a method to model analog devices (abstract).

Claim 1. A simulator is debugging a mechanism control program (column 3, lines 37-51), the mechanism control program being used for controlling a mechanism which performs a mechanical operation and hardware which drives and controls the mechanism, the simulator comprising (column 6, lines 49-57): a simulator CPU (column

319, claim 1); a command information storing command information based on the mechanism control program, the command information being used for driving and controlling the mechanism and being readable by the simulation CPU (a summery of the task in question: column 17, lines 6-40); pseudo-operation (column 11,lines 29-46) means for simulating an operation of the mechanism and an operation of the hardware used to drive and control the mechanism, when the simulation CPU reads the command information from the command information storing section; a sensor information storing section for storing sensor information obtained as an operation result of the mechanism when the pseudo-operation (column 11,lines 29-46) means operates, the sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) being readable by the mechanism control program; and a response information storing section for storing response information indicative of an operation result of the pseudo-operation means (column 11,lines 29-46), the response information being readable by the mechanism control program.

Claim 2. A simulator according to claim 1, (column 3, lines 37-51; column 6, lines 49-57; column 4, lines 49-54; column 11,lines 29-46) wherein said simulator further comprises connection means for connection said simulation CPU to the command information storing section, the sensor information storing section and the response information storing section, and the command information is read out from the command information storing section the sensor information is written in the sensor information

storing section, (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) and the response information is written in the response information storing section through said connection means.

Claim 3. A simulator according to claim 1, (column 3, lines 37-51; column 6, lines 49-57; column 4, lines 49-54; column 11,lines 29-46) wherein after the sensor information is written in the sensor information storing section (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) and the response information is written in the response information storing section and interrupt is requested of the control CPU (column 319, claim 1).

Claim 4. A simulator according to claim 3, (column 3, lines 37-51; column 6, lines 49-57; column 4, lines 49-54; column 11,lines 29-46) further comprising count means for counting the interrupt (column 10, lines 53-65), and transmission means for transmitting timeout data on the basis of a count value of said count means.

Claim 11. A simulator according to claim 1 (column 3, lines 37-51; column 6, lines 49-57; column 4, lines 49-54; column 11,lines 29-46) further comprising a port information storing section in which output port ON/OFF information is written by the control CPU,

(column 319, claim 1) and means for reading out the output port (column 4, lines 49-53) ON/OFF information from the port information storing section.

Claim 14. A simulation method for debugging a mechanism control program (figure 1 with column 3, lines 37-51), the mechanism control program being used for controlling a mechanism which performs a mechanical operation and a hardware which drives and controls the mechanism, the simulation method comprising: writing command information in a command information storing section based on the mechanism control program, the command information being used for driving and controlling the mechanism and being readable by simulation CPU (column 319, claim 1); reading the command information from the command information storing section using the simulation CPU (column 4, lines 49-54; column 319, claim 1) simulating an operation of the mechanism and an operation of the hardware used to drive and control the mechanism, where the command information is read out; writing sensor information in the sensor information storing section, the senor information being obtained as an operation result of the mechanism when simulation is performed, and being readable by the mechanism control program (column 10, lines 52-65); and writing response information in a response information storing section, the response information indicating an operation of the simulating operation and being readable by the mechanism control program (column 4, lines 49-54; column 319, claim 1; column 4, lines 40-53).

Claim 15. A method according to claim 14, (figure 1 with column 3, lines 37-51; column 4, lines 49-54; column 319, claim 1; column 4, lines 49-54; column 319, claim 1) further comprising after the sensor information is written in the sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) storing section and the response information is written in the response information storing section, requesting an interrupt of the control CPU.

Claim 16. A method according to claim 15, (figure 1 with column 3, lines 37-51; column 319, claim 1; column 10, lines 52-65; column 4, lines 49-54; column 319, claim 1) further comprising counting the interrupt (column 10, lines 53-65), and transmitting timeout data on the basis of a count value of the interrupt.

Claim 18. A simulator according to claim 1, (column 3, lines 37-51; column 6, lines 49-57; column 4, lines 49-54; column 11,lines 29-46) wherein said simulator further comprises an address memory for holding a self address in advance, and comparison means for comparing the self address memory with a designated address by the mechanism control program and when comparison result (examiner assumes this to reflect changes in the data in terms of memory: column 4, lines 49-53); by said comparison means indicates that the addresses match (examiner assumes this to reflect changes in the data in terms of memory: column 4, lines 49-53), the sensor

information is received, the command information is received, and the response information is sent.

Claim 19. A simulation system comprising (column 3, lines 37-51; column 321,lines 26-46): a first simulator and a second control simulator for debugging a mechanism control programs (figure 1 with column 3, lines 37-51), the mechanism control program being used for controlling a mechanism which performs a mechanical operation and a hardware which drives and controls the mechanism (column 10, lines 52-65), said first simulator and said second simulator comprising: a simulation CPU (column 319, claim 1); a command information storing command information based on the mechanism control program, the command information being used for driving and controlling the mechanism and being readable by the simulation CPU (column 319, claim 1); pseudo-operation (column 11,lines 29-46) means for simulating an operation of the mechanism and an operation of the hardware used to drive and control the mechanism, when the simulation CPU (column 319, claim 1) reads the command information from the command information storing section; a sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) storing section for storing sensor information obtained as an operation result of the mechanism when the pseudo-operation means operates, the sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) being readable by the mechanism control program; and a response information

storing section for storing response information indicative of an operation result of the pseudo-operation means, the response information being readable by the mechanism control program, said first simulator comprising means for receiving sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) transmitted from said second simulator to the mechanism control program and said first simulator operating in a synchronism with said second simulator on the basis of the of the received sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54).

Claim 21. A system according to claim 19, (column 3, lines 37-51; column 321,lines 26-46; column 319, claim 1; column 11,lines 29-46) wherein said first simulator and said second simulator comprises a port memory for holding port information transmitted from the mechanism control program, said port memory being read-accessible from the hardware.

Claim 22. A simulator debugging (figure 1 with column 3, lines 37-51) a first mechanism control program, the first mechanism control being used for controlling a mechanism control program being used for controlling a mechanism which performs a mechanical operation program being used for controlling a mechanism which performs a mechanical operation and hardware which drives and controls the mechanism, the simulator comprising: a simulation CPU (column 319, claim 1); a first command

information storing section for storing first command information based on the first mechanism control program, the first command information being used for driving and controlling the mechanism and being readable by the simulation CPU; pseudo-operation means for simulating an operation of the mechanism and an operation for the hardware used for driving and controlling the mechanism, when the simulation CPU reads the first command information from the first command information storing section; a sensor information storing section for storing sensor information obtained as an operation result of the mechanism when the pseudo-operation means operates, the sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) being readable by the first mechanism control program; a response information storing section for storing response information indicative of an operation of the pseudo-operation (column 11,lines 29-46) means, the response information being readable by the first mechanism control program; a second command information storing section for storing second command information based on a second mechanism control program different from the first mechanism control program, the second command information being used for driving and controlling the mechanism and being readable by the simulation CPU (column 319, claim 1); and monitoring means for monitoring the second command information provided by the second mechanism control program when the second command information is read from the second command information storing section by the simulation CPU (column 319, claim 1; column 3, lines 37-51; column 321,lines 26-46)).

Claim 23. A simulation system comprising (figure 1 with column 3, lines 37-51): a first simulator and a second simulator for debugging a mechanism control program, the mechanism control program being used for controlling a mechanism which performs a mechanical operation and a hardware which drives and controls the mechanism, said first simulator and said second simulator (design choice) comprising: a simulation CPU (column 319, claim 1); a command information storing section for storing command information based on the mechanism control program, the command information being used for driving and controlling the mechanism and being readable by the simulation CPU (column 319, claim 1); pseudo-operation (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) means for simulating an operation of the mechanism and an operation of the hardware used to drive and control the mechanism, when the simulation CPU (column 319, claim 1) reads the command information from the command information storing section; a sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) storing section for storing sensor information obtained as an operation result of the mechanism when the pseudo-operation (column 11,lines 29-46) means operates, the sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) being readable by the mechanism control program; and a response information storing section for storing response information indicative of an operation result of the pseudo-operation (examiner equates "sensor

information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) means, the response information being readable by the mechanism control program said first simulator operating in synchronism with said second simulator on the basis of the sensor information, said second simulator (design choice) operating in synchronism with said first simulator on the basis of the sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54).

Claim 27. A method according to claims 14, (figure 1 with column 3, lines 37-51; column 4, lines 49-54; column 319, claim 1; column 4, lines 49-54; column 319, claim 1) wherein said method is applied to a simulation system including first and second simulators, the method further comprising causing the first simulator to receive sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) transmitted from the second simulator to the mechanism control program; and causing the first simulator to operation.

Claim 29. A simulation for debugging (figure 1 with column 3, lines 37-51) a mechanism control program, the mechanism control program being used for controlling a mechanism which performs a mechanism operation and a hardware which drives and controls the mechanism, the simulation method: writing first command information in a first command information storing section based on a first mechanism control program,

the command information being used for driving and controlling the mechanism and being readable by a simulation CPU (column 319, claim 1); reading the first simulation command information from the first command information storing section using the simulation CPU (column 319, claim 1); simulating an operation of the mechanism and the hardware used to drive and control the mechanism, when the first command information is read out; writing sensor information in the sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) storing section, the sensor information (examiner equates "sensor information" as a netlist or library as described within the specification, see claim interpretation: column 4, lines 49-54) being obtained as an operation result of the mechanism when simulation is performed, and being readable by the first mechanism control program; writing response information in a response information storing section, the response information indicating an operation result of the simulating operation and being readable by the first mechanism control program; writing second command information in a second command information storing section based on a second mechanism, and being readable by the simulation CPU (column 319, claim 1); and monitoring the second command information provided by the second mechanism control program, the monitoring being performed when the second command information is read from the second information storing section by the simulation CPU (column 319, claim 1).

Claim 30. A method according to claim 14, (figure 1 with column 3, lines 37-51; column 4, lines 49-54; column 319, claim 1; column 4, lines 49-54; column 319, claim 1) wherein said method is applied to a simulation system including first and second simulators and a main body, the method further comprising: causing the first simulator to operate in synchronism with the second simulator (design choice) on the based of the sensor information and causing the second simulator to operate in synchronism with the first simulator on the basis of the sensor information.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm) or contact Supervisor Mr. Kevin Teska at (571) 272-3716. Fax number is 571-273-3715

Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (571) 272-1400

January 11, 2005

THS